

2006. The below remarks are made in view of such interview. The Declaration of Jay P. Nelkin is also attached hereto. Applicants respectfully request reconsideration and withdrawal of all objections/rejections in view of the below.

### **Claim Objections**

Claims 1, 10 and 49 were objected to as being substantial duplicates of claims 54, 55 and 56. Applicants respectfully disagree. As was discussed in the above mentioned telephone interview, claims 1, 10 and 49 recite “adjusting the pH of the soil from an initial pH to a raised pH” whereas claims 54, 55 and 56 recite “adjusting the pH of the soil from a first pH to a second pH”. Thus, claims 54, 55 and 56 are of a different scope as compared to claims 1, 10 and 48, and not substantial duplicates thereof, as was recognized by the Examiner during the telephone interview. Accordingly, Applicants respectfully request withdrawal of all claim objections.

### **Claim Rejection - 35 U.S.C. § 112, first paragraph (new matter)**

Claims 1-4, 8-18, 38-40, 48, 54 and 60 were rejected under 35 U.S.C. § 112, first paragraph, as containing new matter. Applicants respectfully disagree. As was noted in the prior response dated May 31, 2005, one of ordinary skill in the art would understand “elevating” or “raising” the pH of the soil as including elevating or raising soil pH to a range of 5.6 to 9.5 as claimed. Indeed, without any limitation on the upper level of pH, one of ordinary skill in the art would recognize that in the claimed invention, the soil might be elevated to an even higher pH. The specification recognizes such a scenario, indicating that while for metal extraction in general, the preferred pH ranges between

about 5.5 and about 7.0, *see* page 8, lines 23-24, “a more alkaline pH may be used” in certain situations, for example when accumulating nickel and the iron oxide of the soil is low. *See* page 8, lines 18-20. Thus, the originally filed application provides support for a pH of about 5.5 to 7.0 and higher (*i.e.*, more alkaline), including a pH range of 5.6 to 9.5 as claimed.

Applicants would like to thank the Examiner for recognizing the validity of this argument, as was discussed in the above mentioned telephone interview. In particular, Applicants would like to thank the Examiner for recognizing that the specification phrase “a more alkaline pH may be used” refers to a pH value above 7.0 to 14.0. Nevertheless, as further support of such more alkaline pH values, Applicants submit the attached Declaration of Jay P. Nelkin. As further shown by this Declaration, as was recognized by the Examiner, metal may be accumulated within and extracted from *Alyssum* hyperaccumulator plants at more alkaline pH levels in excess of 7.0. *See* para. 3) of Declaration. As also shown by the Declaration, metal accumulation and extraction may actually increase as the soil pH is increased. *See* para. 4) of Declaration.

Accordingly, Applicants respectfully request withdrawal of this rejection.

**Claim Rejection – 35 U.S.C. § 112, first paragraph (enablement)**

Claims 1-4, 8-9, 48-49 and 54-60 were rejected under 35 U.S.C. § 112, first paragraph, as lacking enablement. Applicants respectfully disagree, at least for those reasons set forth in the prior response dated May 31, 2005. Moreover, Applicants would like to thank the Examiner for taking the time to review the specification, and as a result, recognize the enablement of all claims. As noted by the Examiner at page 3

of the pending Office Action, the specification is enabling for the accumulation of nickel with nickel-hyperaccumulator plants, as set forth in the claims. Moreover, as was recognized by the Examiner during the above mentioned telephone interview, the specification is enabling for the accumulation of cobalt with cobalt-hyperaccumulator plants, in accordance with the claimed invention. For example, as recognized by the Examiner, at the very least, Table 1 of the specification demonstrates the accumulation of cobalt (and other metals) as well as increased cobalt (and other metals) accumulation at a raised or second pH, in accordance with the claimed invention. *See e.g.*, Table 1, columns labeled Final pH, Co and Mn. Accordingly, Applicants must respectfully request withdrawal of all claim rejections.

In view of the remarks above, Applicants respectfully submit that this application is in condition for allowance and request favorable action thereon.

Application No.: 09/437,607  
Attorney Docket No.: VRD 3003.01

In the event this paper is not considered to be timely filed, Applicants hereby petition for an appropriate extension of time. The fee for this extension may be charged to our Deposit Account No. 50-0578. The Commissioner is hereby authorized to charge any fee deficiency or credit any overpayment associated with this communication to Deposit Account No. 50-0578, referencing Attorney Docket No. VRD 3003.01.

Respectfully Submitted,

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